SOME PHYSICAL AND BIOLOGICAL EFFECTS OF SUCTION DREDGE MINING

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ABSTRACT

During 1981 and 1982, studies on three Sierra streams examined the effects of suction dredge mining on the water quality parameters of turbidity, settleable solids, and sedimentation rate as well as the effects on populations of aquatic insects and fish. These studies included documentation of effects from a single dredge and investigation of additive effects from numerous dredges along a stream section.

Suction dredge mining causes significant localized alterations of the streambed and the habitat of aquatic organisms. The abundances of several species of aquatic insects and riffle sculpin (Cottus gulosus) were adversely effected. The size of the impact zone depends on a variety of factors including dredge size and stream bottom characteristics. No additive effects were detected on streams with numerous dredges.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

Increases in the price of gold in recent years have led to rapid expansion of suction dredging in many coastal and Sierra foothill streams. The number of suction dredge permits issued by the California Department of Fish and Game (DFG) increased from approximately 3,000 in 1975 to over 13,000 in 1980 (Figure 1). While some rivers are closed to dredging either entirely or seasonally, many rivers are open to dredging throughout the year (Appendix 1).

Although the potential for damage to these streams is cause for concern, the effects of suction dredging have not been adequately studied. Regulatory agencies require objective data to formulate decisions which govern dredging activity while providing protection for fish and wildlife and their habitat. Griffith and Andrews (1981) found high mortality in trout eggs and fry subjected to entrainment in a small dredge; mortality of invertebrates was less than 1% when treated similarly. We examined the effects of dredging on some water quality parameters as well as the effects on aquatic insects and adult fish from both a single dredge and numerous dredges along relatively short sections of three Sierra streams.

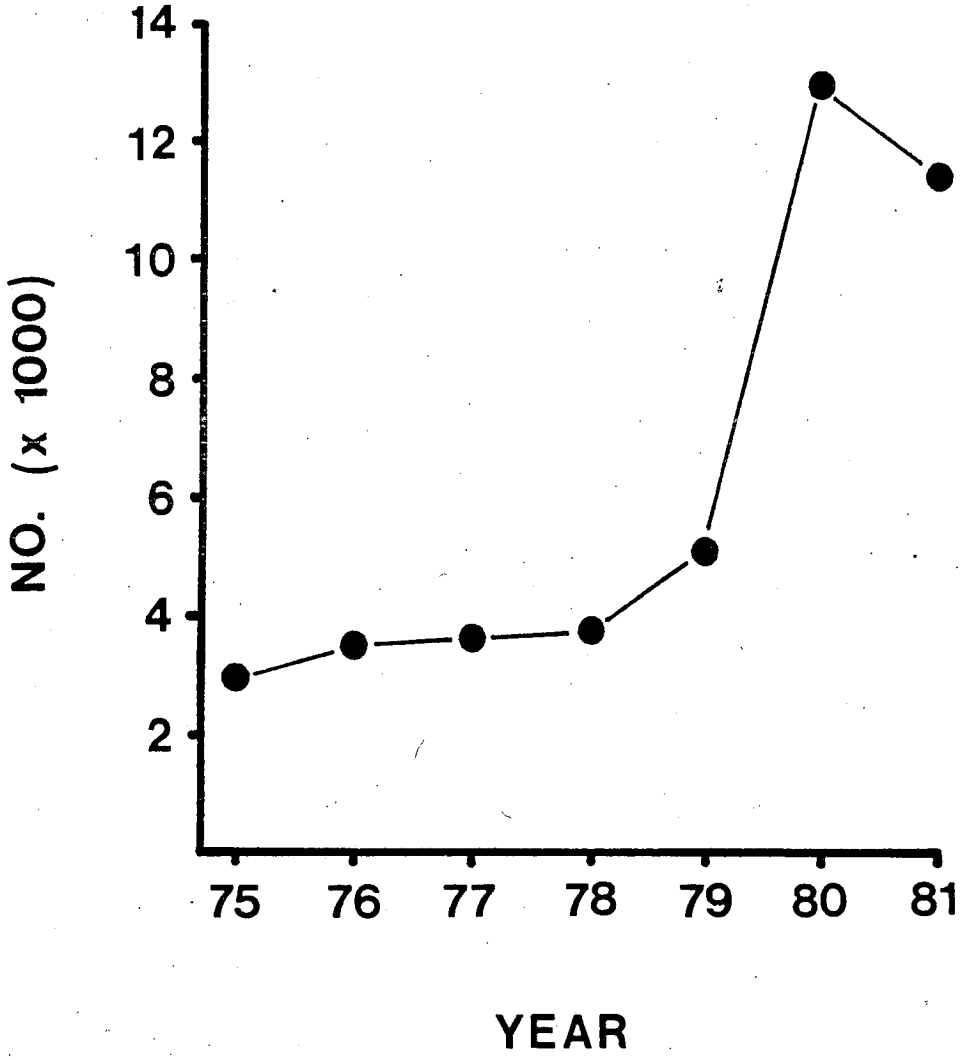

Figure 1. Total number of suction dredge permits issued by California Department of Fish and Game, 1975-1981.

CONCLUSIONS

Suction dredge mining can cause significant localized alterations of stream substrate as well as adverse effects on the habitat and abundance of aquatic organisms, especially insects. With dredges of intake size $\leq$6 inches on the three streams examined by us, the area most impacted was from the dredge site to about 30m downstream. This impact zone could be larger or smaller depending upon a variety of factors including the size of the dredge and stream bottom characteristics. No additive effects were detected on streams where a number of dredges were being operated. The streambed alterations caused by dredging are probably more long-lived on streams with controlled flows than on streams with uncontrolled "flushing" flows.

RECOMMENDATIONS

1. The California Department of Fish and Game should continue to regulate suction dredge mining on a stream-by-stream basis since the impact of suction dredge mining is highly variable due to differences between streams in flow, substrate type, gradient, fish populations, etc.

2. Legislation should be introduced which would add appropriate provisions to Section 5653 of the Fish and Game Code to cover those limitations (particularly B7 and B8) lost with the repeal of Section 228, Title 14, of the California Administration Code.

MATERIALS AND METHODS

STATION LOCATIONS

American River The study site was located on the North Fork American River near Gold Run at about 39° 07' 43" N, 120° 51' 08" W, elevation 408m. This region is designated a Wild and Scenic River and is closed to dredging except for prior claims. The site was chosen for the initial 1980 investigation because the effect of one dredge could be isolated. During August 1980, the flow was 1.5 cubic meters per second (m^3/s) and daytime water temperatures were between 10 and 16°C. One six-inch dredge was operated in a typical manner by a professional miner. Sampling sites were selected on the basis of similarity in depth, water velocity, bottom substrate, and lack of riparian cover. Station 0 (control) was located 128m upstream of the dredge; stations 1, 2, and 3 were located at 12, 60, and 120m below the dredge, respectively, with a gradient of 2m measured between stations 0 and 3. Samples were collected monthly from August through November 1980; dredging began after collection of August samples and continued through mid-October 1980. The site was revisited in August 1981 for a subjective assessment of recovery.

Yuba River During 1981 we attempted to examine the additive effects of suction dredge mining on two streams, the Yuba River and Butte Creek. The North Fork Yuba River below Downieville was selected because of the relatively high level of suction dredge mining that occurs on this large stream. An 11km stretch of stream between Goodyears Bar (approx. 39° 32' 30" N, 120° 53' W, elevation 805m, flow 3.4 m^3/s) and Indian Valley Campground (approx. 39° 31' N, 120° 59' W, elevation 707m, flow 4.2 m^3/s) with about 40 active dredges was chosen. Daytime water temperature ranged from 10°C to 17°C. Sampling site selection was based on the same criteria used for the American River. Station 0 (control) was located just downstream of the Goodyears Bar bridge. A 2km stretch of river along the community of Goodyears Bar is closed to dredging and appeared to be little perturbed even though dredging does occur further upstream. This closed area was the only suitable location available for use as a control.

Stations 1, 2, and 3 were located 3, 8, and 11km downstream of the bridge, respectively. Each station was sampled on three occasions from July through September 1981.

Butte Creek This moderate-size stream was also examined during 1981 for additive effects of suction dredge mining. It arises in the High Sierra and enters the Sacramento River on the Sacramento Valley floor. The stream is subject to numerous physical alterations along its length including a diversion 15km above the study area which removes water year-round at a rate of approximately 2 m^3/s for hydroelectric and domestic uses. The study section, about 5km north of De Sabla at an elevation of 670m, is characterized by large pools (maximum depth $>$ 2m, length $>$75m, width $>$4m) separated by short riffle sections in a mixed coniferous/deciduous forest. Summer flows were less than .05 m^3/s and daytime water temperatures were between 10 and 18°C. Dredging activity in the study section was approximately 12 hours/km/day, with an average of 3 dredges/km from the beginning of June to the end of the second week in October. Four sampling stations within the impacted area and two upstream control stations were selected on the basis of similarity in depth, velocity and substrate. The two control stations were 5km (C1) and 400m (C2) upstream of the area where dredging occurred; proceeding downstream, impact stations were numbered 1 through 4. Insect samples were collected monthly from June to November 1981; June samples were taken prior to initiation of dredging. Rainbow and brown trout were the only fish found within the study area.

SAMPLING AND ANALYTICAL TECHNIQUES

Settleable solids were measured using Imhoff cones and a 1-hour settling period. Turbidity was measured with a Hach Model 16800 Portalab turbidimeter. Sedimentation rate was measured using 5" (127mm) diameter x 1" (26mm) deep clay saucers filled with washed river gravel retained by a #5 Tyler Standard Screen (3.962mm mesh opening). At each station, 10 gravel filled saucers were placed at equal intervals across the stream and allowed to remain for 24 hours. The amount of material collected was dried, weighed, ashed, then reweighed to determine both organic and inorganic components. As the organic

component was always very small, results are reported on a dry weight basis. At all stations on each stream, insect sampling was performed where depth ranged from 15-30cm, velocity ranged from 10-25cm/sec, and substrate was greater than 90% cobble. All sampling sites were positioned at the tail of large pools immediately above riffle sections. Insect sampling was performed monthly at all stations with 10 samples taken per station. All insect samples were taken by the same person using a modified Surber sampler, disturbing the substrate to a depth of 10cm. Samples were concentrated in the bottom of the net and that portion of the net dipped in 70% ethanol to remove the majority of organisms; the net was then visually inspected for any remaining animals. Samples were preserved in 70% ethanol and transported to the laboratory where each was examined under a microscope using 7X power and all individuals were counted. Individuals were identified to the lowest possible taxa (genera in most cases).

All insect species which averaged more than 3 individuals per sample at any station in any month were included in an analysis of variance. Analyses were conducted between stations for each month with each species considered separately. Since the variance of species abundances was highly related to the mean, a log (x+1) transformation of the date was made. Where significant ($p < .05$) overall differences were found, Tukey's multiple comparison test (Steel and Torrie, 1960) was applied to determine differences between particular stations for each of the three streams studied. In addition, Scheffé's multiple comparison test was employed with data from Butte Creek.

Fish counts were made by a diver using mask and snorkel. Relative sculpin abundance was measured at the American River by turning over at least 45 rocks at each station and counting the number of individuals found under each. Rocks selected were at least 25mm in length and minimally embedded. By moving upstream along the bottom and slowly removing sample rocks, it was found that accurate counts could be made since sculpin were likely to remain in place initially. On Butte Creek, fish were caught using hook and line and tagged with small colored beads attached to monofilament line (White and Beamish 1972). Using different

color combinations of beads, individual fish could be recognized during underwater observation. The location of tagged fish was determined at approximately 2 week intervals from May 27 to October 4, 1981.

RESULTS AND DISCUSSION

Generally, rapid recovery to control levels in both turbidity and settleable solids occurred below dredging activity. Examples of changes in both measurements caused by the single dredge on the American River are shown (Figures 2 and 3). Results obtained on Butte Creek and the Yuba River were generally similar although a turbidity of 50 NTU was measured on Butte Creek and 35 NTU was measured on the Yuba River. However, changes in turbidity caused by dredging were highly variable. Dredging bedrock pockets containing only sand and gravel causes virtually no change in turbidity whereas dredging clay deposits and stream banks causes very noticeable turbidity increases. While turbidities in the 10-50 NTU range are clearly noticeable in streams with background levels of <2 NTU, studies by a variety of investigators (Brusven and Rose 1981, Griffin 1938, Olsen et al. 1973) indicate that these increases do not impair feeding of certain fish species including rainbow trout. Observations of trout downstream of dredges on Butte Creek revealed that drift feeding continued at turbidities exceeding 25 NTU. However, other beneficial uses of the water may be adversely effected by increased turbidity. The turbidity levels measured downstream of working dredges may not comply with limitations set forth in the Basin Plan Objectives (State Water Resources Control Board 1975).

Sedimentation rate, following a pattern similar to that of both turbidity and settleable solids, rapidly returned to ambient levels downstream of a working dredge (Figure 4). No additive effects were apparent on either Butte Creek or the Yuba River. Observations on the American River are generally typical; a visual substrate estimation technique used there showed that sand made up a large proportion ($\sim$ 25-40%) of the substrate for a distance of 30m below the dredge where virtually no sand was present prior to dredging. This effect was observable to a lesser extent as far as 60m downstream. This sand embedded the cobble thereby reducing or eliminating the preferred habitat of some insect and fish species.

The results of initial analyses of variance by month for the American River data showed significant differences ($p < .05$) among the populations levels

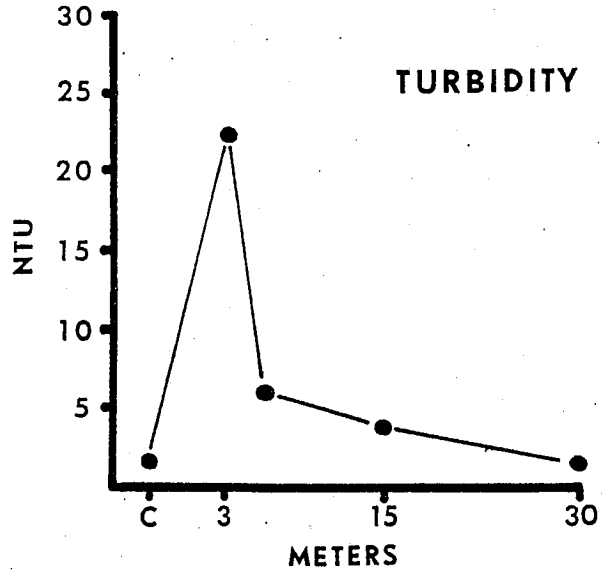

Figure 2. Typical turbidity levels measured at the control station (C) and at various distances downstream of the dredge; North Fork American River, 1980.

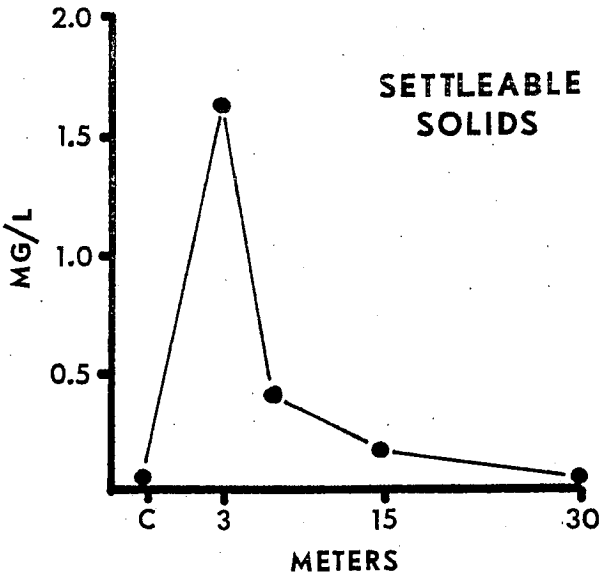

Figure 3. Typical settleable solids concentrations measured at the control station (C) and at various distances downstream of the dredge; North Fork American River, 1980.

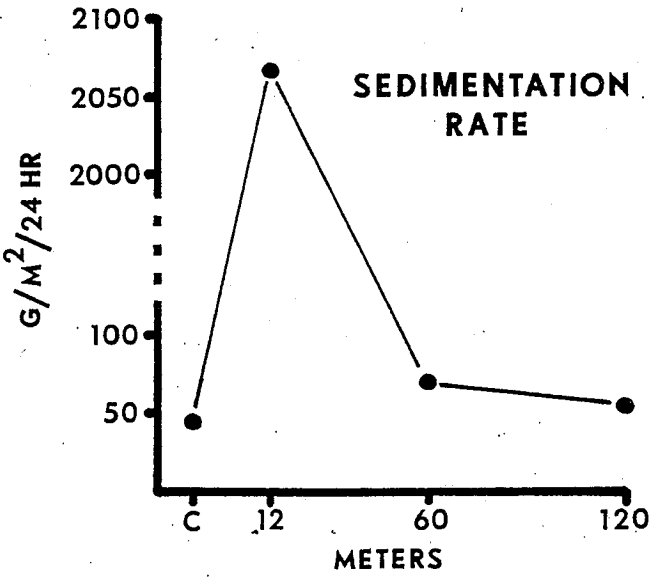

Figure 4. Typical sedimentation rates (dry weight basis) measured at the control station (C) and at various distances downstream of the dredge; North Fork American River, 1980.

of eight species of aquatic insects. Tukey's test was employed to identify those stations which were significantly different ($p < .05$) from the control (Table 1). The pre-dredging data from August indicate no significant differences between stations. In the eleven cases where the control station (station 0) is significantly different than another station, it is always greater; the control is representative of undisturbed conditions whereas some perturbation (i.e. dredging) has caused significant changes in the insect populations downstream. This table also demonstrates that the effects of dredging on invertebrates were highly localized; in nine of ten cases, insect populations at station 2 were significantly greater than at station 1. Moreover, in seven of ten cases where the control was greater than station 1, station 2 was also significantly greater than station 1, indicating that the adverse effects on insect populations from suction dredge mining seen at station 1 were, for the most part, not apparent at station 2. Those few differences observed at station 2 may have been due to biological variability rather than suction dredge mining.

With Butte Creek insect analysis, in addition to Tukey's test (with each control compared to each impacted station), Scheffé's test was used to compare the average of the controls to the other four stations. While both tests yielded similar results, those of Scheffé's test are shown in Table 2 since they give more compact display of the findings. The temporal control (June) again shows no significant ($p < .05$) differences between stations. Significant differences between the controls and impacted stations correspond with the degree of local dredging activity. For example, dredging in June occurred only in the immediate area of station 4. The amount of sand at this station prior to dredging was $<10\%$ whereas at the time of July sampling the amount of sand was $>60\%$. It is noteworthy that, for all species examined, stations 1 and 3 were never significantly lower than the controls. Dredging took place in the large pools immediately above stations 1 and 3 at various times, but no substrate changes occurred at these stations. The significantly greater abundance of certain species at some impacted stations in later months may be explained by higher levels of detritus (leaf litter) in these areas than in the controls.

TABLE 1. Analysis of benthic sample data for the N.F. American River showing significant differences ($P < .05$) between stations (Tukey's test, Steel and Torrie 1960).

	AUG	SEP	OCT	NOV
COLEOPTERA				
Elmidae	X[1/]	X	X	NSD[2/]
DIPTERA				
Chironomidae a	NSD	0>1	0>1,2>1	NSD
Chironomidae b	NSD	NSD	2>1	X
EPHEMEROPTERA				
Baetis	NSD	NSD	2>1	0>1,2>1
Tricorythodes	X	X	X	0>1,1>2
PLECOPTERA				
Acroneuria	NSD	0>1,2>1	0>1,2>1	NSD
Chloroperlidae	X	X	X	0>1,0>2
TRICHOPTERA				
Hydropsyche	NSD	0>1,2>1	0>1,2>1	0>1,2>1

[1/] X = Average abundance <3 individuals per sample at all stations.

[2/] NSD = Average abundance is >3 individuals per sample for at least one station but no significant differences between any stations at .05 level.

Table 2. Analysis of the benthic sample data for Butte Creek.

	MONTH AND STATION																					
	JUN				JUL				AUG				SEP				OCT				NOV			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
COLEOPTERA																								
Elmidae (adult)	NSD[1]				NSD				NSD				NSD				X[2]				X			
Elmidae (larvae)	NSD						1[3]		NSD				NSD				2[4]					2		
DIPTERA																								
Chironomidae	NSD						1				1		1						1				2	
EPHEMEROPTERA																								
Baetis	NSD					1			NSD				1				NSD				NSD			
Cinygmula	NSD					1			1				1		1		X				X			
Epeorus	NSD				X				X				X				X				X			
Rhithrogena	X				X				X				X				X				NSD			
PLECOPTERA																								
Acroneuria	NSD				NSD				1				1		2		1						2	
TRICHOPTERA																								
Gumaga	X				X				X				1				NSD				NSD			
Micrasema	X				NSD				NSD				X				X				X			

[1] NSD = Average abundance >3 individuals per sample for at least one station but no significant differences between any station at .05 level.

[2] X = Average abundance <3 individuals per sample at all stations.

[3] 1 = The average of the two controls is significantly greater than the station given ($P < .05$) (Scheffe's method, Steel and Torrie 1960).

[4] 2 = Average of the two controls is significantly less than the station given ($P < .05$).

The Yuba River data (Table 3) are difficult to interpret due to late initiation of sampling and dissimilarity of stations. While insect abundances at the control are greater than those of impacted stations, factors other than dredging are probably important in the majority of cases where significant differences occurred. The substrate at the control was entirely silt-free due at least in part to the relatively high water velocity at this station. Longitudinal differences in stream temperature and sediment load (from a variety of sources) may be contributing factors. Differences due to insect emergence patterns are also more likely because the stations were widely separated.

The overall effect of dredging on the benthic community appears to be highly localized. The data from Butte Creek gives no indication of any additive effect of dredging on invertebrates, but rather a local one caused by changes in substrate. Different habitat requirements result in a range of effects on individual species (and life history stages). The caddisfly Hydropsyche requires crevices between cobble and boulder size rocks to construct its net and cannot remain in high abundance when these rocks are embedded. Likewise, the later instar heptageniids (mayflies), commonly scrapers on the surfaces of cobbles and boulders, show a decline in abundance when the sand component of the substrate is increased. However, early instars of this same family may be relatively dense on sandy substrates. Those insects capable of utilizing a sandy substrate may become more abundant given enough time to recolonize.

The degree of embeddedness caused by mining activity is an important consideration. Bjornn et al. (1977) found no negative impacts on the insect community when the embeddedness of cobbles and boulders (in sand) reached greater than 30%. Substrate characterized by partial embeddedness may be preferred by many aquatic insects (which may account for the greater abundance of the stonefly Acroneuria in Butte Creek at station 4 in September). Insects are no exception to the general hypothesis that diversity increases with habitat complexity (Hart 1978).

An important point regarding the above discussion is the question of the

Table 3. Analysis of benthic sample data for the N.F. Yuba River showing significant differences ($P < .05$) between stations (Tukey's test, Steel and Torrie 1960).

	JUL	AUG	SEP
COLEOPTERA			
Elmidae	NSD[1/]	1>3, 2>3	0>1, 2>1
DIPTERA			
Chironomidae	0>2, 1>2, 1>3	0>2, 0>3, 1>3, 2>3	0>3, 1>3, 2>3
Tipulidae	X[2/]	1>0, 0>2, 1>2, 1>3, 2>3	0>3, 2>3
EPHEMEROPTERA			
Baetidae	3>1, 3>2	NSD	1>0, 2>0, 3>0
Cinygmula	0>1, 0>2, 0>3	0>3, 1>3, 2>3	X
Ephemerella	0>1, 0>2, 0>3, 1>3	X	X
Rhithrogena	X	X	3>0, 3>1, 3>2
Tricorythodes	3>1	NSD	X
PLECOPTERA			
Perlodidae	X	0>2, 1>2, 3>2	X
TRICOPTERA			
Helicopsyche	X	0>1, 0>2, 0>3, 1>3, 2>3	0>1, 0>2, 0>3
Hydropsyche	NSD	1>0, 1>3	0>2, 1>2, 3>2
Lepidostomatidae	0>1, 0>2, 0>3, 1>3, 2>3	0>2, 0>3, 1>2, 1>3, 3>2	0>2, 0>3, 1>2, 2>3

[1/] NSD = Average abundance is >3 individuals per sample for at least one station but no significant differences between any stations at .05 level.

[2/] X = Average abundance <3 individuals per sample at all stations.

generality of the benthic sampling performed. A definite subset of the depth, velocity, and substrate combinations present was taken to reduce sample variability, a key problem in benthic studies (Resh 1979). Shallow runs were selected because it has been suggested that the insect community is most diverse in these habitats (Hynes 1970); in addition, we believe the most accurate samples can be taken from this type of habitat.

In pools, where there is a greater tendency for fine particles to settle out, damage from dredging could be high; however, insect density is also apparently the lowest in these areas. In riffles, where insect density is normally greatest (with a high percentage of attached organisms), damage from sand could be great. The high water velocities characteristic of riffles serve to move sand over a greater area, causing wide changes in substrate. Dredging in riffles on Butte Creek caused the stream bottom to become exposed in some areas clearly reducing the area of productive insect habitat.

At the American River study site, fish densities were low (two rainbow trout, 2 smallmouth bass, 12 Sacramento suckers) in the 100m below the dredge, minimizing the likelihood that any impact on fish populations would be seen. Virtually no change in the fish population occurred over the course of the study in the pool where dredging took place; however, dredging was confined to the tail of the pool. Riffle sculpin densities were reduced by as much as 50% below the dredge due largely to the reduced number of unembedded cobbles and boulders. In addition, individuals were found less frequently under rocks which remained relatively unembedded.

At Butte Creek, fish densities in the impacted area were comparable to those upstream though all decreased with time. As water levels decreased after late July, it appeared trout populations were limited by the amount of appropriate habitat. Over the course of the study, tagged individuals (in both control and impact areas) moved, at most, one pool upstream or downstream. In one small pool in which six individuals were tagged, three moved into the riffle immediately downstream when the pool was partially filled with sand due to dredging. While dredging eliminated apparently

good fish habitat in some cases, all resident trout in one shallow riffle occupied either of two holes created by dredging.

Given that suction dredging can cause significant localized alterations in substrate and habitat of aquatic organisms in general, how long-lived are these changes? In August of 1981, one year after our investigation, there was virtually no evidence that dredging had occurred at the American River study site. Similarly, winter/spring runoff on Butte Creek has eliminated any substrate changes caused by dredging. However, dredging-related substrate alterations could be long lasting below impoundments where "flushing" winter flows are restricted.

There are a number of other impacts from suction dredge mining that have not yet been adequately examined. These impacts are not limited to effects on fish and wildlife resources. Some examples are the damage to or destruction of riparian habitat, water quality degradation, potential human health problems from the lack of proper sanitation facilities at un-official stream-side campsites, and the potential for fuel and oil spills in streams. Asthetics of otherwise scenic areas are impaired by camps in undesignated sites, dredge noise, and litter. Conflicts arise between the miners and recreational users such as fisherman, rafters, and hikers. Each of these issues needs to be examined and regulations adopted, if necessary, to minimize the impacts and conflicts associated with suction dredge mining.

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GLOSSARY

benthos — Term used to describe organisms living in or on the bottom of a stream, lake, etc.

Coleoptera — Order of insects commonly called water beetles; within this group is the family Elimidae or riffle beetles. Typically they crawl over the bottom or cling to vegetation.

Diptera — A large and diverse group of insects commonly known as flies, gnats, midges (Chironomidae) and crane flies (Tipulidae).

Ephemeroptera — Order of insects commonly called mayflies.

fry — Term used to describe young fish during the period from hatching until absorption of the yolk sac is complete.

heptageniids — Refers to the mayfly family Heptageniidae to which Cinygmula and Rhithrogena belong.

instar — The growth of an insect is accompanied by a series of molts in which the exoskeleton (outer shell) is shed and renewed. The stages between molts are called instars. Generally, an insect will molt 4 to 8 times before the adult stage is reached.

invertebrate — All animals without a vertebral (spinal) column (e.g. insects).

NTU — Nephelometric Turbidity Units (see turbidity).

Plecoptera — Order of aquatic insects commonly called stoneflies. An important food for fish.

sedimentation — Sediment is any matter that settles to the bottom of a liquid; sedimentation then is the depositing of sediments.

settleable solids — That material, including silt, sand, clay and organic matter, which will settle to the bottom in standing water; the quantity is expressed as milliliters per liter of water.

taxa — From taxonomy or the theory and practice of classifying organisms. Taxon (pl. taxa) is a taxonomic group that is sufficiently distinct to be distinguished by name and ranked in a definite category.

Trichoptera — Caddisflies; the larvae of this group of insects include net-building forms like Hydropsyche and other case-builders like Helicopsyche and Lepidostomatidae.

turbidity — An expression of the optical property of water that causes light to be scattered rather than transmitted through it. The Nephelometric method compares the intensity of light scattered by the sample under defined conditions with the intensity of light scattered by a standard reference suspension under the same conditions; expressed as NTU. The higher the intensity of scattered light, the higher the turbidity.

variance — A measure of variability in a sample; equal to the square of the standard deviation. The unbiased estimated of sample variance is equal to the sum of the squared deviations from the mean divided by the number of independent measurements minus one;

$$s^2 = \frac{\sum_{1}^{n} (Xi - \bar{x})^2}{n-1}$$

APPENDIX I

228. **Vacuum or Suction Dredges.** Permits to use vacuum or suction dredges in any river, stream or lake of this State may be issued under and subject to the following conditions:

(a) **To Whom Issued.** To any person who has submitted an application on a form furnished by the Department of Fish and Game specifying the type and size of equipment to be used, and location where such equipment will be used. If the department determines that the proposed operation of the suction or vacuum dredge will not be deleterious to fish, it shall issue a permit to the applicant.

(b) **Limitations.**

(1) The size of the suction or vacuum dredge may be limited by the department.

(2) Only equipment specified in the permit may be used.

(3) Equipment may be operated only in the locations specified in the permit.

(4) Nothing in the permit shall authorize the permittee to trespass on privately owned land. The permittee shall conform to all applicable federal, state and local statutes and ordinances. Suction or vacuum dredges shall not be used where dredging is prohibited by statute, ordinance or regulation adopted pursuant thereto.

(5) Permits are not transferable.

(6) No person other than the permittee shall exercise any rights under the permit.

(7) Suction or vacuum dredge equipment may not be used as a hydraulic monitor to wash dirt or gravel above the water surface.

(8) No change may be made in the bed, bank, or channel of any river, stream or lake which adversely affects the environment of fish.

(9) The permit and equipment shall be available for inspection at any time a suction or vacuum dredge is being operated in any stream, river or lake of this state upon demand of any employee of the department or any peace officer.

(10) **The license year for suction or vacuum dredge permits shall be from January 1 through December 31 or any part thereof.**

(c) **Areas of Operation.**

The department shall determine which streams, rivers or lakes, or areas of streams, rivers or lakes where operation of a suction or vacuum dredge of a specific size will not be deleterious to fish.

(d) **Suspension or Cancellation of Permit.**

All permits issued under authority of this regulation may be suspended or canceled on notice by the Fish and Game Commission for violation of any terms or conditions of the permit.

NOTE: Authority cited: Section 1050, Fish and Game Code. Reference: Section 5653, Fish and Game Code.

History: 1. New section filed 7-5-62 as an emergency; effective upon filing (Register 62, No. 13).

2. Certificate of Compliance—Section 11422.1, Government Code, filed 8-30-62 (Register 62, No. 18).

3. Amendment of subsection (a) filed 3-17-76; effective thirtieth day thereafter (Register 76, No. 12).

4. Repealer filed 10-5-81; effective thirtieth day thereafter (Register 81, No. 41).

* Note: This section repealed under item 4 above; regulations covered under Fish and Game Code.

1600. The protection and conservation of the fish and wildlife resources of this state are hereby declared to be of utmost public interest. Fish and wildlife are the property of the people and provide a major contribution to the economy of the state as well as providing a significant part of the people's food supply and therefore their conservation is a proper responsibility of the state. This chapter is enacted to provide such conservation for these resources.

1601. Except as hereinafter provided, general plans sufficient to indicate the nature of a project for construction by, or on behalf of, any governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed, channel or bank of any river, stream or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, or will use material from the streambeds designated by the department, shall be submitted to the department. When an existing fish or wildlife resource may be substantially adversely affected by such construction, the department shall notify the governmental agency or public utility of the existence of such fish or wildlife resource together with a description thereof and will propose reasonable modifications in the proposed construction as would allow for the protection and continuance of the fish or wildlife resource, including procedures to review the operation of such protective measures. Such proposals shall be submitted within 30 days of receipt of such plans, with the provision that this time may be extended by mutual agreement. Upon a determination by the department and after notice to the affected parties of the necessity for an onsite investigation or upon the request for an onsite investigation by the affected parties, the department shall make an onsite investigation of the proposed construction and shall make such investigation before it proposes any modifications.

Within 14 days of receipt of the department's proposals, the affected agency or public utility shall notify the department in writing as to the acceptability of the proposals, except that this time may be extended by mutual agreement. If such proposals are not acceptable to the affected agency or public utility, then that agency or public utility shall so notify the department. Upon request the department shall meet with the affected agency or public utility within seven days of receipt of such notification or such time as may be mutually agreed upon for the purpose of developing proposals which are acceptable to the department and the affected agency or public utility. If mutual agreement is not reached at such meeting a panel of arbitrators shall be established; provided, however, that the appointment of such panel may be deferred by mutual consent of the parties. The panel shall be established within seven days of such meeting and shall be composed of one representative of the department, one representative of the affected agency or public utility, and a third person mutually agreed upon, or if no agreement can be reached, the third person shall be appointed in the manner provided by Section 1281.6 of the Code of Civil Procedure. The third person shall act as panel chairman. The panel shall have power to settle disagreements and make binding decisions regarding such fish and wildlife modifications. Such arbitration shall be completed within 14 days from the

day that the composition of the panel is established, unless the time is extended by mutual agreement. Expenses of the department representative are to be borne by the department; expenses of the representative of the governmental agency, state or local, or the public utility are to be borne by the governmental agency, state or local, or the public utility; expenses of the chairman are to be paid one-half by each party.

Agencies or public utilities proposing projects affected by this section shall not commence such operations until the department has found that such project will not substantially adversely affect an existing fish or wildlife resource or until the department's proposals, or the decisions of a panel of arbitrators, have been incorporated into such projects.

The department shall determine and specify types of work, methods of performance or remedial measures which shall be exempt from the operation of this section.

With regard to any project which involves routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required subsequent to the initial notification and agreement unless the work as described in the agreement is substantially changed, or conditions affecting fish and wildlife resources substantially change, and such resources are adversely affected by the activity conducted under the agreement. This provision shall be applicable in any instance where notice to and agreement with the department has been attained prior to the effective date of this act.

The provisions of this section shall not be applicable to emergency work necessary to protect life or property; however, notification by the agency or public utility performing such emergency work shall be made to the department within 14 days of the commencement of such emergency work.

1602. In addition to the provisions of Section 1601, the department, following submission of the modifications referred to in Section 1601, shall by mutual agreement with any state agency proposing such project, establish such procedures that the parties deem necessary to provide adequate review of the proposed modifications and consideration of alternative conditions designed to protect existing fish and wildlife resources. If no agreement can be reached between the department and the state agency proposing the project, the procedures for arbitration specified in Section 1601 shall then apply.

1603. It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity, except when the department has been notified pursuant to Section 1601. The department within 30 days of receipt of such notice, or within the time determined by mutual written agreement, shall, when an existing fish or wildlife resource may be substantially adversely affected by such activity, notify the person of the existence of such fish and wildlife resource together with a description thereof, and shall submit to the person its proposals as to measures necessary to protect fish and wildlife. Upon a determination by the department of the necessity for onsite investigation or upon the request for an onsite investigation by the affected parties, the department shall notify the affected parties that it shall make onsite investigation of the activity and

shall make such investigation before it shall propose any measure necessary to protect the fish and wildlife.

Within 14 days of receipt of the department's proposals, the affected person shall notify the department in writing as to the acceptability of the proposals, except that this time may be extended by mutual agreement. If such proposals are not acceptable to the affected person, then that person shall so notify the department. Upon request the department shall meet with the affected person within seven days of receipt of such notification or such time as may be mutually agreed upon for the purpose of developing proposals which are acceptable to the department and the affected person. If mutual agreement is not reached at such meeting a panel of arbitrators shall be established; provided, however, that the appointment of such panel may be deferred by mutual consent of the parties. The panel shall be established within seven days of such meeting and shall be composed of one representative of the department, one representative of the affected person, and a third person mutually agreed upon, or if no agreement can be reached, the third person shall be appointed in the manner provided by Section 1281.6 of the Code of Civil Procedure. The third person shall act as panel chairman. The panel shall have power to settle disagreements and make binding decisions regarding fish and wildlife modifications. Such arbitration shall be completed within 14 days from the day that the composition of the panel is established, unless the time is extended by mutual agreement. Expenses of the department representative are to be borne by the department, expenses of the representative of the person who diverts or obstructs the natural flow or changes the bed of any river, stream or lake, or uses any material from the streambeds shall be borne by such person; expenses of the chairman are to be paid one-half by each party.

It is unlawful for any person to commence any activity affected by this section until the department has found it will not substantially adversely affect an existing fish or wildlife resource or until the department's proposals, or the decisions of a panel of arbitrators, have been incorporated into such projects. If the department fails to act within 30 days of the receipt of the notice, the person may commence such activity.

It is unlawful for any person to engage in a project or activity affected by this section, unless such project or activity is conducted in accordance with the department's proposals or the decisions of the panel of arbitrators.

With regard to any project which involves routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required subsequent to the initial notification and agreement unless the work as described in the agreement is substantially changed, or conditions affecting fish and wildlife resources substantially change, and such resources are adversely affected by the activity conducted under the agreement. This provision shall be applicable in any instance where notice to and agreement with the department have been attained prior to the effective date of this chapter.

The provisions of this section shall not be applicable to emergency work necessary to protect life or property. Notification by the person performing such emergency work shall be made to the department within 14 days of commencement of such emergency work.

5650. It is unlawful to deposit in, permit to pass into, or place where it can pass into the waters of this State any of the following:

(a) Any petroleum, acid, coal or oil tar, lampblack, aniline, asphalt, bitumen, or residuary product of petroleum, or carbonaceous material or substance.

(b) Any refuse, liquid or solid, from any refinery, gas house, tannery, distillery, chemical works, mill or factory of any kind.

(c) Any sawdust, shavings, slabs, edgings.

(d) Any factory refuse, lime, or slag.

(e) Any cocculus indicus.

(f) Any substance or material deleterious to fish, plant life, or bird life.

5652. It is unlawful to deposit, permit to pass into, or place where it can pass into the waters of the state, or to abandon, dispose of, or throw away, within 150 feet of the high-water mark of the waters of the state, any cans, bottles, garbage, motor vehicle or parts thereof, rubbish, or the viscera or carcass of any dead mammal, or the carcass of any dead bird.

The abandonment of any motor vehicle in any manner which violates the provision of this section shall constitute a rebuttable presumption affecting the burden of producing evidence that the last registered owner of record, not having complied with the provisions of Section 5900 of the Vehicle Code, is responsible for such abandonment and is thereby liable for the cost of removal and disposition of the vehicle. This section shall not prohibit the placement of a vehicle body on privately owned property along a streambank by the property owner or tenant for the purpose of preventing erosion of the streambank.

This section does not apply to a refuse disposal site which is authorized by the appropriate local agency having jurisdiction or to the depositing of such materials in a container from which the materials are routinely removed to a legal point of disposal.

The provisions of this section shall be enforced by all law enforcement officers of this state.

(Amended by Stats. 1972, Ch. 403.)

5653. Before any person uses any vacuum or suction dredge equipment in any river, stream or lake of this state, such person shall submit an application for a permit for such a dredge to the Department of Fish and Game specifying the type and size of equipment to be used and such other information as the department may require.

The department may designate waters or areas wherein vacuum or suction dredges may be used pursuant to a permit, waters or areas closed to such dredges, the maximum size of such dredges which may be used, and the time of year when such dredges may be used. If the department determines that such operation will not be deleterious to fish it shall issue a permit to the applicant. If any person operates any equipment other than that authorized by the permit or conducts such operation in any waters or area, or at any time which is not authorized by the permit, or if any person conducts such operation without securing such permit, such person shall be guilty of a misdemeanor.

The department shall require as a fee for such permits, five dollars ($5) when an onsite investigation of the project site is not deemed necessary by the department, and seventy-five dollars ($75) when the department deems an onsite investigation is necessary.

(Amended by Stats. 1975, Ch. 735.)

5800. (a) It is unlawful to conduct any mining operations in the Trinity and Klamath River Fish and Game District between July 1st and November 30th except when the debris, substances, tailings or other effluent from such operations do not and cannot pass into the waters in that district.

(b) It is unlawful between July 1st and November 30th to pollute, muddy, contaminate, or roil the waters of the Trinity and Klamath River Fish and Game District. It is unlawful between those dates to deposit in or cause, suffer, or procure to be deposited in, permit to pass into, or place where it can pass into, such waters, any debris, substance or tailings from hydraulic, placer, milling, or other mining operation affecting the clarity of such waters. The clarity of such waters shall be deemed affected when such waters at a point a distance of one mile below the confluence of the Klamath River and the Salmon River or at a point a distance of one mile below the confluence of the South Fork of the Trinity River and the Trinity River, contain fifty (50) parts per million, by weight, of suspended matter, not including vegetable matter in suspension and suspended matter occurring in the stream or streams due to an act of God.

(c) It is unlawful, between July 1st and November 30th to carry on or operate any hydraulic mine of any kind on, along, or in any waters flowing into the Trinity and Klamath River District. However, nothing herein contained shall prevent the operation of a hydraulic mine where the tailings, substance, or debris, or other effluent therefrom, does not or will not pass into the waters of the Trinity and Klamath River Fish and Game District, between such dates, and any person, firm, or corporation engaged in hydraulic mining shall have the right until the fifteenth day of July to use water for the purpose of cleaning up.

(d) Any structure or contrivance which causes or contributes, in whole or in part, to the condition, the causing of which is in this section prohibited, is a public nuisance, and any person, firm, or corporation maintaining or permitting it is guilty of maintaining a public nuisance, and it is the duty of the district attorney of the county where the condition occurs or the acts creating the public nuisance occur, to bring action to abate such nuisance.

5801. Section 5800 does not affect any other laws applying to the territory included in the Trinity and Klamath River Fish and Game District which relate to birds, mammals, and fish.

11037. The following constitutes the Trinity and Klamath River Fish and Game District:

The Klamath River and the waters thereof, following its meanderings from the mouth of the Klamath River in Del Norte County to its confluence with the Salmon River, and also the Trinity River and the waters thereof, following its meanderings from its confluence with the Klamath River in the County of Humboldt to its confluence with the south fork of the said Trinity River.

CALIFORNIA PERMIT HANDBOOK

State of California
May 1980

Office of Planning and Research
1400 Tenth Street
Sacramento, California 95814
(916) 322-8515

DEPARTMENT OF FISH AND GAME

Standard Suction Dredging Permit

I. Who Needs a Standard Suction Dredging Permit?

Anyone proposing to use suction or vacuum dredging equipment with an intake diameter of 12 inches or less in any river, stream, or lake designated as open must obtain a standard suction dredging permit from the Department of Fish and Game. Project sponsors should contact the Department for a list of open and closed waters.

The state and regional offices of the Department of Fish and Game regulate the use of suction and vacuum dredging equipment to maintain a stable environment for fish life and wildlife resources in California's waters. The State has jurisdiction over waters flowing across federal land.

II. Where Should the Project Sponsor Apply?

Persons who must obtain a standard suction dredging permit should direct inquiries and applications to the state headquarters in Sacramento or to the regional Fish and Game office for the area in which the proposed dredging activity will take place:

State Headquarters
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
(916) 445-1383

Regional Offices

Department of Fish and Game (1) 627 Cypress Redding, CA 96001 (916) 246-6511	Del Norte, Humboldt, Lassen, Modoc, Shasta, Siskiyou, Tehama, and Trinity Counties
Department of Fish and Game (2) 1001 Jedsmith Drive Sacramento, CA 95819 (916) 445-2064	Alpine, Amador, Butte, Calaveras, Colusa, eastern Contra Costa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, eastern Solano, Sutter, Yolo, and Yuba Counties
Department of Fish and Game (3) Yountville Veterans Facility P.O. Box 47 Yountville, CA 94599 (707) 944-2443	Alameda, western Contra Costa, Marin, Mendocino, Monterey, San Benito, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, western Solano, and Sonoma Counties

Department of Fish and Game (4) 1234 East Shaw Avenue Fresno, CA 93710 (209) 222-3761	Fresno, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne Counties
Department of Fish and Game (5) 350 Golden Shore Long Beach, CA 90802 (213) 590-5177	Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura Counties

III. What Information Should the Project Sponsor Provide Upon Application?

Applicants must provide the following information on DFG Form #965, "Application for Standard Permit to Operate Vacuum or Suction Dredge," available at any office of the Department:

A. Name, address, and telephone number of applicant; and,

B. Description of type of dredging operation (gold mining, sand and gravel, etc.).

IV. What Application Fee Must the Project Sponsor Submit?

Applicants for Standard Suction Dredging permits must submit a $5.00 fee with each application.

V. How Does the Department Evaluate and Process the Application?

Criteria for evaluation. The Department will approve Standard Suction Dredging permits if the following conditions apply:

A. The proposed dredging activity occurs in open waters;

B. The applicant operates a dredge with an intake diameter of 12 inches or less; and,

C. The applicant submits the completed form and a $5.00 fee.

The Department of Fish and Game will not issue a suction dredging permit if the proposed dredging activity will harm fish. In addition, the Department will not issue a permit for dredging in any national forest or in any national, state, county, or municipal park if the agency in control of the forest or park has prohibited dredging in its jurisdiction.

Procedures. Project sponsors should submit completed application forms and fees to the state or regional Fish and Game office. The desk clerk reviews the application to determine if it meets the criteria described above. If the application meets these criteria, the clerk automatically approves the permit.

VI. What Are the Project Sponsor's Rights and Responsibilities After the Permit Is Granted?

Rights. The permittee may operate the approved dredge equipment in any open waters of the state. Standard Suction Dredging permits are valid from January 1 through December 31 or any part of that calendar year.

If a permittee wishes to renew a permit beyond the termination date, he or she must file a new application with the appropriate fee. The Department of Fish and Game processes these applications according to the procedure described above.

Only the permittee may operate the suction device or exercise any other rights under the permit. The permittee may not transfer the permit to another party.

Responsibilities. The permittee must conduct dredging activities according to the following conditions:

A. The permittee may use only the equipment specified in the permit;

B. The permittee cannot change the bed, bank, or channel of any river, stream, or lake if the change will impair fish habitat;

C. The permittee cannot trespass on privately owned land; and,

D. The suction or vacuum dredge equipment cannot be used to wash dirt or gravel above the water's surface.

VII. What Are the Department's Rights and Responsibilities After the Permit Is Granted?

Rights. The Department of Fish and Game may inspect the permittee's equipment at any time during the operation of the suction or vacuum dredge.

The Department may revoke the permit if the permittee violates any terms or conditions of the permit. It may also cancel any permit after 30 days' written notice.

VIII. What Other Agencies Should the Project Sponsor Contact?

Most applicants for Standard Suction Dredging permits do not need permit approval from other agencies. Applicants should consider, however, whether the agencies listed below must issue permits for the proposed dredging activity:

A. Local - city or county

B. State - California Tahoe Regional Planning Agency
Coastal Commission
Department of Water Resources
The Reclamation Board

San Francisco Bay Conservation and
Development Commission
State Lands Commission
State Water Resources Control Board
Tahoe Regional Planning Agency

C. Federal - National Park Service
United States Army Corps of Engineers
United States Forest Service

IX. What Other Sources of Information Are Available to the Project Sponsor?

Project sponsors may refer to the following publications for further information about suction dredging permits:

A. California Fish and Game Code Sections 1601, 1602, 1603, 5650, 5652, 5653, 5800, and 11037; and,

B. California Administration Code, Title 14, Section 228.

These publications are generally available at any Department of Fish and Game office, county law libraries, and the State Library in Sacramento.

DEPARTMENT OF FISH AND GAME

Special Suction Dredging Permit

I. Who Needs a Special Suction Dredging Permit?

Anyone proposing to use suction or vacuum dredge equipment with an intake diameter over 12 inches in any lake, stream, or river in the state must obtain a special suction dredging permit from the Department of Fish and Game. In addition, anyone proposing to use suction or vacuum dredge equipment of any size in any area designated as closed by the Department must also obtain a special suction dredging permit. Contact the Department for a list of open and closed waters. The State has jurisdiction over waters flowing across federal land.

The five regional Fish and Game offices regulate the use of suction and vacuum dredge equipment to maintain a stable environment for fish and wildlife resources in California's waters.

II. Where Should the Project Sponsor Apply?

Persons who must obtain a special suction dredging permit should direct inquiries and applications to the state headquarters in Sacramento or to the regional Fish and Game office for the area in which the proposed activity will take place:

State Headquarters
Department of Fish and Game
1416 Ninth Street, 12th Floor
Sacramento, CA 95814
(9160 445-1383

Regional Offices

Department of Fish and Game (1) 627 Cypress Redding, CA 96001 (916) 246-6511	Del Norte, Humboldt, Lassen, Modoc, Shasta, Siskiyou, Tehama, and Trinity Counties
Department of Fish and Game (2) 1001 Jedsmith Drive Sacramento, CA 95819 (916) 445-2064	Alpine, Amador, Butte, Calaveras, Colusa, eastern Contra Costa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, eastern Solano, Sutter, Yolo, and Yuba Counties

Department of Fish and Game (3) Yountville Veterans Facility P.O. Box 47 Yountville, CA 94599 (707) 944-2443	Alameda, western Contra Costa, Marin, Mendocino, Monterey, San Benito, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, western Solano, and Sonoma Counties
Department of Fish and Game (4) 1234 East Shaw Avenue Fresno, CA 93710 (209) 222-3761	Fresno, Kern, Kings, Madera, Mariposa, Merced, Stanislaus, Tulare, and Tuolumne Counties
Department of Fish and Game (5) 350 Golden Shore Long Beach, CA 90802 (213) 590-5177	Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura Counties

III. What Information Should the Project Sponsor Provide Upon Application?

Applicants must provide the following information on DFG Form #964, "Application for Special Permit to Operate Vacuum or Suction Dredge," available at any regional Fish and Game office:

A. Applicant's name, address, and telephone number;

B. Type of operation;

C. Size of the dredging equipment;

D. Dates dredging will take place;

E. Location where dredging will take place, including township and section, any known landmarks, and ownership of land (if a mining claim, the applicant must provide a legal description of the site); and,

F. Explanation and justification of the applicant's need to dredge.

IV. What Application Fee Must the Project Sponsor Submit?

The Department will charge project sponsors a fee for each application. The regional office will bill the applicant according to the following schedule after the regional manager determines whether an onsite inspection is necessary:

Without onsite inspection	$ 5.00
With onsite inspection	$75.00

V. How Does the Department Evaluate and Process the Application?

Criteria for evaluation. The Department evaluates the following factors to determine whether to issue or deny applications for special suction dredging permits:

A. Size of the dredging equipment;

B. Time of year that the applicant will undertake the activity; and,

C. Any unusual conditions that would harm fish resources.

The Department will not issue a special suction dredging permit if the proposed dredging activity will harm fish. In addition, the Department will not issue a permit for dredging in any national forest or in any national, state, county, or municipal park if the agency in control of the forest or park has prohibited dredging in the area. Special suction dredging permits are seldom granted.

Procedures. After receiving an application for a special suction dredging permit, the Regional Manager of the regional office determines if a fish and game warden should conduct an onsite inspection to evaluate the application.

If the Regional Manager determines that an onsite inspection is unnecessary and the dredge activity will not harm fish, he or she will approve the application. The regional office processes most applications for projects that do not require inspections in less than two weeks.

If the Regional Manager determines that an onsite inspection is necessary, the regional office takes approximately two weeks to process the application. The Department recommends that the applicant be present during the inspection but this is not mandatory.

VI. What Are the Project Sponsor's Rights and Responsibilities After the Permit Is Granted?

Rights. The regional office specifies in the Special Suction Dredging Permit how long the permit will remain effective--normally three months. The permittee may operate the approved dredging equipment only in waters designated in the permit.

If the permittee wishes to renew a permit beyond the termination date, he or she must file a new application with the appropriate fee. The Department processes these applications according to the procedure for initial permit applications.

Only the permittee may operate the suction device or exercise any other rights under the permit. The permittee may not transfer the permit to another party.

Responsibilities. The permittee must conduct dredging activities according to the following conditions:

A. The permittee may use only the equipment specified in the permit;

B. The permittee may not change the bed, bank, or channel of any river, stream, or lake if the change will damage the habitat;

C. The permittee cannot trespass on privately owned land; and,

D. Suction or vacuum dredge equipment cannot be used to wash dirt or gravel above the water's surface.

VII. What Are the Department's Rights and Responsibilities After the Permit Is Granted?

The Department may inspect the permittee's equipment at any time during the operation of the suction or vacuum dredge.

Upon 30 days' written notice, the Department may revoke or cancel a permit if the permittee violates any terms or conditions of the permit.

VIII. What Other Agencies Should the Project Sponsor Contact?

Applicants should consider whether the agencies listed below must also issue permits for the proposed dredging activity:

A. Local - city, county, or special district

B. State - California Tahoe Regional Planning Agency
Coastal Commission
Department of Water Resources
The Reclamation Board
San Francisco Bay Conservation and Development Commission
State Lands Commission
State Water Resources Control Board
Tahoe Regional Planning Agency

C. Federal - National Park Service
United States Forest Service
United States Army Corps of Engineers

IX. What Other Sources of Information Are Available to the Project Sponsor?

Sponsors may refer to the following publications for further information on suction dredging permits:

A. California Fish and Game Code Sections 5650, 5652, 5653, 5800, 11037; and,

B. California Administrative Code, Title 14, Section 228.

These publications are generally available at any regional Fish and Game office, county law libraries, and the State Library in Sacramento.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

LIST OF OPEN AND/OR CLOSED AREAS — FOR USE WITH STANDARD PERMIT
(Special Permits Not Valid in These Waters Unless So Specified In The Special Permit)

FOR THE CALENDAR YEAR 1982

California is divided into five zones which are listed below with the dates when suction and vacuum dredging is permitted in each zone.

Zone A	Closed Waters - No dredging permitted at any time.
Zone B	Open to dredging from July 1 through August 31.
Zone C	Open to dredging from June 1 through October 15.
Zone D	Open to dredging from June 1 through September 15.
Zone E	Open to dredging throughout the year.

County areas are included in one or more of the above zones. In addition to the zone or zones listed opposite counties below, most counties have some further detailed restrictions or additional open waters. These further restrictions or additional open waters are listed alphabetically on the following pages by stream or water with the particular applicable county shown by parentheses. (Check this list of waters before dredging.)

If the county is not listed below, it is in Zone E.

ALPINE.....All Waters Zone C.
AMADOR.....East of Highway #49 is Zone C, remainder Zone E.
BUTTE.....Zone C.
CALAVERAS.....East of Highway #49 is Zone C, remainder Zone E.
DEL NORTE.....Zone C.
EL DORADO.....East of Highway #49 is Zone C, remainder Zone E.
FRESNO.....Within the external boundaries of the National Forests is Zone C, remainder Zone E.
HUMBOLDT.....Zone C.
IMPERIAL.....Zone E.
INYO.....Zone A.
KERN.....The Kern River and tributaries from Isabella Dam upstream is Zone A, remainder Zone E.
LASSEN.....Zone C.
LOS ANGELES.....Zone E.
MADERA.....Within the external boundaries of the National Forests is Zone C, remainder Zone E.
MARIPOSA.....Within the external boundaries of the National Forests is Zone C, remainder Zone E.
MERCED.....Zone E.
MODOC.....Zone C.
MONO.....Zone A.
NEVADA.....East of Highway #49 is Zone C, remainder Zone E.
ORANGE.....Zone E.
PLACER.....East of Highway #49 is Zone C, remainder Zone E.
PLUMAS.....Zone C.
RIVERSIDE.....Zone E.
SACRAMENTO.....Zone E.
SAN BERNARDINO.....Zone E.
SAN JOAQUIN.....Zone E.
SHASTA.....Zone C.
SIERRA.....Zone C.
SISKIYOU.....Zone D.

STANISLAUS.....Zone E.
TEHAMA.....Zone C.
TRINITY.....Zone C.
TULARE.....The Kern River and tributaries is Zone A, remainder Zone E.
TUOLUMNE.....East of Highway #49 is Zone C, remainder Zone E.
YUBA.....Zone E.

All waters in national parks and national monuments are Zone A.

ZONE REGULATIONS - ADDITIONAL WATERS OR AREAS

In addition to the county listings, the following detailed restrictions or additional open waters shall apply when dredging under the authority of a Standard Suction Dredge Permit:

AMERICAN RIVER (SACRAMENTO COUNTY). From the mouth upstream to Nimbus Dam is Zone A.

AMERICAN RIVER, NORTH FORK (EL DORADO AND PLACER COUNTIES). From Folsom Reservoir to 1,000 feet upstream from the Colfax Iowa Hill Bridge is Zone E. From 1,000 feet upstream from the Colfax Iowa Hill Bridge to Heath Springs (T16N R14E S16) is Zone A.

AMERICAN RIVER, MIDDLE FORK (EL DORADO AND PLACER COUNTIES). From its junction with the North Fork of the American River upstream to the confluence with the Rubicon River is Zone E.

AMERICAN RIVER, NORTH FORK OF THE MIDDLE FORK (PLACER COUNTY). From its junction with the Middle Fork of the American River upstream to the bridge on the Michigan Bluff (Deadwood) Last Chance Trail (T15N R12E S32) is Zone E.

AMERICAN RIVER, SOUTH FORK (EL DORADO COUNTY). From Folsom Reservoir upstream to the Highway 50 Crossing at Riverton is Zone E.

AMERICAN RIVER, SOUTH FORK TRIBUTARIES (EL DORADO COUNTY). All tributaries to the South Fork of the American River from Folsom Reservoir upstream to Chili Bar Bridge (T11N R10E S35) are Zone E, except Weber Creek above Highway 50 Crossing which is Zone C.

BEAR RIVER (NEVADA AND PLACER COUNTIES). From Highway 49 upstream to Dutch Flat Powerhouse (T16N R10E S27) is Zone E.

BIG JACKASS CREEK (TUOLUMNE COUNTY). Zone E - No dredge with intake larger than four inches (4") may be used.

BLUFF CREEK (HUMBOLDT COUNTY). No dredging without special permit. Zone A.

BUTTE CREEK (BUTTE COUNTY). From Sutter County line upstream to the Durham-Oroville Highway Bridge is Zone E. From the Durham-Oroville Highway Bridge upstream to the intake of Centerville Ditch (T23N R3E S10) is Zone A. From Centerville Ditch intake (T23N R3E S10) upstream no dredge with an intake larger than four inches (4") shall be used.

CALAVERAS RIVER AND TRIBUTARIES (CALAVERAS AND SAN JOAQUIN COUNTIES). Below New Hogan Reservoir is Zone B.

CANYON CREEK (TRINITY COUNTY). Zone D. No dredge with intake larger than six inches (6") may be used.

CARSON RIVER, EAST FORK AND TRIBUTARIES (ALPINE COUNTY). From its confluence with Bagley Valley Creek (T9N R21E S27) upstream is Zone A.

CHURN CREEK AND TRIBUTARIES (SHASTA COUNTY). From Interstate Highway 5 upstream is Zone E.

CLEAR CREEK (SHASTA COUNTY). Clear Creek and tributaries upstream from McCormick-Saeltzer Dam (excluding Whiskeytown National Recreation Area) are closed to dredging from March 1 through May 31 - open remainder of year.

CLEAR CREEK (SISKIYOU COUNTY). No dredging without special permit.

CLAVEY RIVER (TUOLUMNE COUNTY). From confluence with Tuolumne River upstream, no dredge with intake larger than four inches (4") may be used.

COFFEE CREEK, TRIBUTARY TO UPPER TRINITY RIVER BELOW NORTH FORK (TRINITY COUNTY). Season is May 15 through September 1.

COLORADO RIVER (IMPERIAL, RIVERSIDE, AND SAN BERNARDINO COUNTIES). The main channel and all side sloughs and tributaries of the Colorado River are Zone A.

COSUMNES RIVER (SACRAMENTO, AMADOR AND EL DORADO COUNTIES). From the Western Pacific Railroad bridge about 1/4 mile above mouth upstream to the Labtrobe Highway bridge is Zone B. From the Latrobe Highway bridge upstream to the confluence with the North and Middle Fork of the Consumnes River is Zone E.

COSUMNES RIVER, NORTH FORK (EL DORADO COUNTY). From its junction with the Middle Fork of th Cosumnes River upstream to the bridge on the Somerset-Pleasant Valley Road is Zone E.

COSUMNES RIVER, MIDDLE FORK (EL DORADO COUNTY). From its junction with the North Fork of the Cosumnes River upstream to Bakers Ford on the Aukum-Somerset Road is Zone E.

COSUMNES RIVER, SOUTH FORK (AMADOR AND EL DORADO COUNTIES). From its junction with the Middle Fork of the Cosumnes River upstream to the County Road Bridge at River Pines is Zone

DEEP CREEK AND TRIBUTARIES (SAN BERNARDINO COUNTY). From the mouth upstream is Zone A.

DEER CREEK (NEVADA COUNTY). From Ponderosa Way below Rough and Ready Falls (T16N R7E S13) upstream to Highway 49 is Zone C.

DEER CREEK, TRIBUTARY TO THE TUOLUMNE RIVER (TUOLUMNE COUNTY). Zone E. No dredge with intake larger than four inches (4") may be used.

DILLION CREEK, TRIBUTARY TO KLAMATH RIVER AND ITS TRIBUTARIES COPPER AND NORTH FORK DILLION CREEK (SISKIYOU COUNTY). No dredging without special permit. Zone A.

EEL RIVER, MAIN STEM (HUMBOLDT, MENDOCINO AND TRINITY COUNTIES). No dredge with intake larg than six inches (6") may be used.

EEL RIVER, MIDDLE FORK (MENDOCINO AND TRINITY COUNTIES). From its mouth at Dos Rios upstream, including all tributaries for one (1) mile of their length from their confluence with the Middle Fork Eel River, Zone A.

EEL RIVER, NORTH FORK (MENDOCINO AND TRINITY COUNTIES). No dredge with intake larger than six inches (6") may be used.

EEL RIVER, SOUTH FORK, (HUMBOLDT AND MENDOCINO COUNTIES). No dredge with intake larger than six inches (6") may be used.

ELK CREEK (SISKIYOU COUNTY). No dredging without special permit.

FEATHER RIVER (BUTTE COUNTY). From its confluence with Honcut Creek (T17N R3E S27) upstream to the Highway 70 bridge is Zone B and from Highway 70 bridge to Oroville Dam is Zone A.

FEATHER RIVER, MIDDLE FORK (BUTTE AND PLUMAS COUNTIES). Closed to dredging all year from the Milsap Bar Bridge upstream to the mouth of Nelson Creek. In the remainder of the Middle Fork Feather River no dredge with intake larger than four inches (4") may be used. (See notice on Federal Wild & Scenic Rivers at end of this list).

FEATHER RIVER, SOUTH FORK (BUTTE AND PLUMAS COUNTIES). From Oroville Reservoir upstream to Little Grass Valley Dam (T22N R9E S31) is Zone E.

FLAT CREEK, TRIBUTARY TO KESWICK LAKE (SHASTA COUNTY). Zone E.

GREENHORN CREEK (NEVADA COUNTY). From the mouth upstream to Buckeye Road (T16N R10E S19) is Zone E.

GREENHORN CREEK (SISKIYOU COUNTY). Greenhorn Creek above City of Yreka Reservoir is Zone E.

HALL'S GULCH, TRIBUTARY TO EAST FORK TRINITY RIVER (TRINITY COUNTY). Season, May 15 - Sept. 1.

HAYFORK CREEK (TRINITY COUNTY). Hayfork Creek from its confluence with the South Fork Trinity River upstream to 9 Mile Bridge is Zone D. No dredge with intake larger than six inches (6") may be used.

HOLY JIM CREEK (ORANGE COUNTY). From the mouth upstream is Zone A.

HUMBUG CREEK (NEVADA COUNTY). From the mouth upstream is Zone E.

INDEPENDENCE CREEK (NEVADA AND SIERRA COUNTIES). From Independence Lake upstream is Zone A.

KANAKA CREEK AND TRIBUTARIES (SIERRA COUNTY). From the mouth upstream is Zone E.

KANAKA CREEK (TUOLUMNE COUNTY). Zone E. No dredge with intake larger than four inches (4") may be used.

KLAMATH RIVER (DEL NORTE, HUMBOLDT, AND SISKIYOU COUNTIES). From the mouth upstream to the junction of the Scott River is Zone E.

LITTLE JACKASS CREEK (TUOLUMNE COUNTY). Zone E. No dredge with intake larger than four inches (4") may be used.

LITTLE ROCK CREEK AND TRIBUTARIES (LOS ANGELES COUNTY). From the Sycamore Camp Ground in Angeles National Forest upstream is Zone A.

MACKLIN CREEK (NEVADA COUNTY). From its confluence with the Middle Fork Yuba River (T19N R12E S16) upstream is Zone A.

MERCED RIVER (MARIPOSA COUNTY). Zone E.

MERCED RIVER (MERCED COUNTY). From the Santa Fe Railway Bridge (between Ballico and Creasy) upstream to the Crocker-Huffman Dam is Zone B.

MERCED RIVER, NORTH FORK (MARIPOSA COUNTY). Zone E.

MERCED RIVER, SOUTH FORK (MARIPOSA COUNTY). From its confluence with the main Merced River upstream to the Yosemite National Park boundary is Zone A.

MIDDLE CREEK AND TRIBUTARIES UPSTREAM FROM IRON MOUNTAIN ROAD (SHASTA COUNTY). Zone E.

MOKELUMNE RIVER (AMADOR, CALAVERAS AND SAN JOAQUIN COUNTIES). From Lockeford upstream to

MOKELUMNE RIVER (Continued)
Pardee Dam is Zone B. From Pardee Dam upstream to the Electra Powerhouse is Zone A. From the Electra Powerhouse to the mouth of Slaughterhouse Canyon (common corner of Sections 11-12-13-14 T6N R12E) is Zone E.

MOODY CREEK AND TRIBUTARIES (TRIBUTARY TO STILLWATER CREEK, SHASTA COUNTY). Zone E.

MUD CREEK (BUTTE COUNTY). From its junction with Big Chico Creek upstream is Zone E.

NELSON CREEK (PLUMAS COUNTY). Including tributaries, no dredge with intake larger than four inches (4") may be used.

NEW RIVER (HUMBOLDT AND TRINITY COUNTIES). From its confluence with the Trinity River upstream is Zone D. No dredge with intake larger than six inches (6") may be used.

NORTH FORK SALMON RIVER ABOVE YELLOW DOG CREEK (SISKIYOU COUNTY). No dredging without special permit.

OLNEY CREEK AND TRIBUTARIES UPSTREAM FROM BRANSTETTER LANE BRIDGE (SHASTA COUNTY). Zone E.

PAPOOSE CREEK, TRIBUTARY TO CLAIR ENGLE LAKE (TRINITY COUNTY). Season - May 15 through September 1.

PIRU CREEK AND TRIBUTARIES (VENTURA AND LOS ANGELES COUNTIES). From the Santa Clara River upstream is Zone A, except that Piru Creek from Pyramid Reservoir upstream to the confluence with Lockwood Creek, excluding tributaries, is Zone E. No dredge with an intake larger than five inches (5") may be used.

ROCK CREEK (BUTTE COUNTY). From its junction with Big Chico Creek upstream to the Butte-Tehama County Line is Zone E.

ROCK CREEK, TRIBUTARY TO SACRAMENTO RIVER (SHASTA COUNTY). Zone E.

RUBICON RIVER (PLACER COUNTY). From its junction with the Middle Fork of the American River upstream to the Georgetown Divide-Ralston Ridge Road crossing (T13N R12E S7) is Zone E and from junction with Middle Fork American River upstream to Hell Hole Dam, including tributaries no dredge with intake larger than four inches (4") may be used.

SACRAMENTO RIVER (TEHAMA AND SHASTA COUNTIES). From the Squaw Hill Bridge (between Corning and Vina) upstream to Keswick Dam is Zone A.

SACRAMENTO RIVER (BUTTE COUNTY). Zone E.

SALT CREEK AND TRIBUTARIES (TRIBUTARY TO SACRAMENTO RIVER BELOW KESWICK DAM, SHASTA COUNTY), UPSTREAM FROM HIGHWAY 299 W. BRIDGE. Zone E,

SAN GABRIEL RIVER, EAST FORK AND TRIBUTARIES (LOS ANGELES COUNTY). From Cattle Canyon upstre is Zone A.

SAN GABRIEL RIVER, WEST FORK AND TRIBUTARIES (LOS ANGELES COUNTY). From Rincon Guard Station upstream is Zone A.

SANTA ANA RIVER AND TRIBUTARIES (SAN BERNARDINO COUNTY). From the mouth of Bear Creek upstream is Zone A.

SANTA CLARA RIVER AND TRIBUTARIES (LOS ANGELES COUNTY). From the Los Angeles-Ventura County line upstream is Zone A, except that Texas Canyon Creek is Zone C. No dredge with an intake larger than five (5") may be used.

SANTIAGO CREEK (ORANGE COUNTY). Within the Cleveland National Forest is Zone A.

SCOTCHMAN CREEK (NEVADA COUNTY). Zone E.

SCOTT RIVER (SISKIYOU COUNTY). No dredge with intake larger than six inches (6") may be used.

SHADY CREEK (NEVADA COUNTY). Zone E.

SILVER KING CREEK (ALPINE COUNTY). Zone A.

SMITH RIVER AND TRIBUTARIES (DEL NORTE COUNTY). No dredge with intake larger than six inches (6") may be used.

STANISLAUS RIVER (CALAVERAS, TUOLUMNE, SAN JOAQUIN AND STANISLAUS COUNTIES). From the Santa Fe Railway Bridge upstream to Goodwin Dam is Zone B.

STANISLAUS RIVER (CALAVERAS AND TUOLUMNE COUNTIES). From Melones Dam upstream to Camp Nine road crossing is Zone E.

STEEPHOLLOW CREEK (NEVADA COUNTY). From the mouth upstream to Camels Hump Road (T15N R10E S6) is Zone E.

SULPHUR CREEK AND TRIBUTARIES UPSTREAM FROM S.P. RAILROAD TRACKS (SHASTA COUNTY). Zone E.

SUTTER CREEK (AMADOR COUNTY). From Highway 49 upstream to Pine Gulch Road is Zone E.

TRINITY RIVER (HUMBOLDT AND TRINITY COUNTIES). From its confluence with the Klamath River upstream to its junction with the North Fork is Zone E. From its junction with the North Fork upstream to the Mouth of Grass Valley Creek is Zone D. From Grass Valley Creek upstream to Lewiston Dam is Zone A.

TRINITY RIVER, EAST FORK OF NORTH FORK (TRINITY COUNTY). Zone D. No dredge with intake larger than six inches (6") may be used.

TRINITY RIVER, NORTH FORK (TRINITY COUNTY). Zone D. No dredge with intake larger than six inches (6") may be used.

TRINITY RIVER, SOUTH FORK (TRINITY COUNTY). Zone D. No dredge with intake larger than six inches (6") may be used.

TUOLUMNE RIVER (STANISLAUS COUNTY). From the Waterford Bridge upstream to La Grange Dam is Zone B.

TUOLUMNE RIVER (TUOLUMNE COUNTY). From Don Pedro Reservoir upstream to the Yosemite Park boundary is Zone A.

TURNBACK CREEK (TUOLUMNE COUNTY). Zone E. No dredge with intake larger than four inches (4") may be used.

VAN DUZEN RIVER (HUMBOLDT COUNTY). No dredge with intake larger than six inches (6") may be used.

VOLCANO CREEK (PLACER COUNTY). From Mosquito Ridge Road (T14N R11E S30) upstream to Paragon Mine Tailings Dump (T14N R11E S30) is Zone E.

WEBER CREEK (EL DORADO COUNTY). From Highway 50 Crossing upstream is Zone C.

WOLF CREEK (NEVADA COUNTY). From the Tarr Ditch Diversion (T15N R8E S10) upstream is Zone C.

WOODS CREEK (TUOLUMNE COUNTY). From the upper Highway 49 crossing in Sonora downstream to Don Pedro Reservoir is Zone E. From Jamestown to Don Pedro Reservoir no dredge with intake larger than four inches (4") may be used.

WOOLEY CREEK (SISKIYOU COUNTY). No dredging without special permit.

YELLOW CREEK (PLUMAS COUNTY). Including tributaries, no dredge with intake larger than four inches (4") may be used.

YUBA RIVER (YUBA COUNTY). From a point 4 miles east of Marysville upstream to Englebright Dam is Zone B.

YUBA RIVER, NORTH FORK (SIERRA AND YUBA COUNTIES). From the confluence of the Middle Fork of Yuba River upstream to the junction with Fiddle Creek is Zone E.

YUBA RIVER, MIDDLE FORK (NEVADA, SIERRA AND YUBA COUNTIES). From the confluence of the North Fork of Yuba River upstream to the junction with Kanaka Creek is Zone E.

YUBA RIVER, SOUTH FORK (NEVADA AND YUBA COUNTIES). From its junction with the Yuba River upstream to Edwards Crossing (T17N R9E S17) and from its junction with Poormans Creek upstream to the Grey Eagle Mine (T17N R11E S11) is Zone E.

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NOTICE! SPECIAL CONDITIONS RELATING TO FEDERAL WILD AND SCENIC RIVERS

Certain rivers in California have been designated as components of the Federal Wild and Scenic Rivers System or as study rivers for possible inclusion in the Federal system. Restrictions have been placed on mining on Federal lands in or within 1/4 mile of streams placed in these categories. The following are rivers within this classification:

Middle Fork Feather River: From Lake Oroville to the town of Beckworth. Mining is prohibited in the wild section of the river. The U. S. Forest Service also has other specific regulations regarding mining claims. Contact Plumas National Forest, Quincy, California, before mining.

North Fork American River: From the upstream limits of Auburn Reservoir to the Cedars. All new mining entry was prohibited as of January 3, 1975.

Tuolumne River: From Don Pedro Reservoir upstream to the Yosemite Park boundary is Zone A. All new mining entry was prohibited as of January 3, 1975.

Section 1603, Fish and Game Code. It is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stre or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity, except when the department has been notified pursuant to Section 1601. The department within 30 days of receipt of such notice, or within the time determined by mutual written agreement, shall, when an existing fish or wildlife resource may be substantially adversely affected by such activity, notify the person of the existence of such fish and wildlife resource together with a description thereof, and shall submit to the person its proposals as to measures necessary to protect fish and wildlife. Upon a determination by the department of the necessity for onsite investigation or upon the request for an onsite investigation by the affected parties, the department shall notify the affected parties that it shall make onsite investigation of the activity and shall make

such investigation before it shall propose any measure necessary to protect the fish and wildlife.

Within 14 days of receipt of the department's proposals, the affected person shall notify the department in writing as to the acceptability of the proposals, except that this time may be extended by mutual agreement. If such proposals are not acceptable to the affected person, then that person shall so notify the department. Upon request the department shall meet with the affected person within seven days of receipt of such notification or such time as may be mutually agreed upon for the purpose of developing proposals which are acceptable to the department and the affected person. If mutual agreement is not reached at such meeting a panel of arbitrators shall be established; provided, however, that the appointment of such panel may be deferred by mutual consent of the parties. The panel shall be established withi seven days of such meeting and shall be composed of one representative of the department, one representative of the affected person, and a third person mutually agreed upon, or if no agreement can be reached, the third person shall be appointed in the manner provided by Section 1281.6 of the Code of Civil Procedure. The third person shall act as panel chairman. The panel shall have power to settle disagreements and make binding decisions regarding fish and wildlife modifications. Such arbitration shall be completed within 14 days from the day that the composition of the panel is established, unless the time is extended by mutual agreement. Expenses of the department representative are to be borne by the department, expenses of the representative of the person who diverts or obstructs the natural flow or changes the bed of any river, stream, or lake, or uses any material from the streambeds shall be borne by such person; expenses of the chairman are to be paid one-half by each party.

It is unlawful for any person to commence any activity affected by this section until the department has found it will not substantially adversely affect an existing fish or wildlife resource or until the department's proposals, or the decisions of a panel of arbitrators, have been incorporated into such projects. If the department fails to act within 30 days of the receipt of the notice, the person may commence such activity.

It is unlawful for any person to engage in a project or activity affected by this section, unless such project or activity is conducted in accordance with the department's proposals or the decisions of the panel of arbitrators.

With regard to any project which involves routine maintenance and operation of water supply, drainage, flood control, or waste treatment and disposal facilities, notice to and agreement with the department shall not be required subsequent to the initial notification and agreement unless the work as described in the agreement is substantially changed, or conditions affecting fish and wildlife resources substantially change, and such resources are adversely affected by the activity conducted under the agreement. This provisions shall be applicable in any instance where notice to and agreement with the department have been attained prior to the effective date of this chapter.

The provisions of this section shall not be applicable to emergency work necessary to protect life or property. Notification by the person performing such emergency work shall be made to the department within 14 days of commencement of such energency work.

Section 5800, Fish and Game Code. (A) It is unlawful to conduct any mining operations in the Trinity and Klamath River Fish and Game District between July 1st and November 30th except when the debris, substances, tailings or other effluent from such operations do not and cannot pass into waters of that district. (B) It is unlawful between July 1st and November 30th to pollute, muddy, contaminate, or roil the waters of the Trinity and Klamath River Fish and Game District. It is unlawful between those dates to deposit in or cause, suffer, or procure to be deposited in, permit to pass into, or place where it can pass into, such waters any debris, substance or tailings from hydraulic, placer, milling, or other mining operation affecting the clarity of such waters. The clarity of such waters shall be deemed affected when such waters at a point a distance of one mile below the confluence of the Klamath River

and the Salmon River or at a point a distance of one mile below the confluence of the south fork of the Trinity River and the Trinity River, contain fifty (50) parts per million, by weight of suspended matter, not including vegetable matter in suspension and suspended matter occurring in the streams due to an act of God. (C) It is unlawful, between July 1st and November 30th to carry on or operate, any hydraulic mine of any kind on, along, or in any waters flowing into the Trinity and Klamath River District. However, nothing herein contained shall prevent the operation of a hydraulic mine where the tailings, substance, or debris, or other effluent therefrom does not or will not pass into the waters of the Trinity and Klamath River Fish and Game District, between such dates, and any person, firm, or corporation engaged in hydraulic mining shall have the right until the 15th day of July to use water for the purpose of cleaning up. (D) Any structure or contrivance which causes or contributes, in whole or in part, to the condition, the causing of which is in this section prohibited, is a public nuisance, and any person, firm, or corporation maintaining or permitting it is guilty of maintaining a public nuisance, and it is the duty of the district attorney of the county where the condition occurs or the acts creating the public nuisance occur, to bring action to abate such nuisance.

Section 11037, Fish and Game Code. The following constitutes the Trinity and Klamath River Fish and Game District: The Klamath River and the Waters thereof, following its meanderings from the mouth of the Klamath River in Del Norte County to its confluence with the Salmon River, and also the Trinity River and the waters thereof, following its meanderings from its confluence with the Klamath River in the County of Humboldt to its confluence with the south fork of the said Trinity River.

Fee: $5.00
(Submit with application)

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

APPLICATION FOR STANDARD PERMIT* TO OPERATE
VACUUM OR SUCTION DREDGE
FOR
Calendar Year *_____, or Remaining Portion Thereof

I hereby make application for a standard permit to use a vacuum or suction dredge.

NAME _____ Telephone No. ( ) _____
Area Code Number

ADDRESS _____

_____
City State Zip

Type of Operations: (check one) Gold Mining ☐ Sand & Gravel ☐ Other ☐
Explain "Other" if checked: _____

I hereby certify that I have read the provisions of Section 5653 of the California Fish and Game Code and Section 228, Title 14, California Administrative Code, (see reverse side for copy of these sections), and that I understand and agree to be bound by all the terms set forth in the permit issued pursuant to the above-named sections.

_____ _____
Date of Application Signature of Applicant

*A Standard Permit is valid only for use of dredges with an intake diameter of 8 inches or less and in waters open to dredging. A standard permit may be issued by any one of the regional offices or by headquarters office. (See reverse side for list of offices.)

DO NOT WRITE IN THE SPACE BELOW - FOR OFFICIAL USE ONLY

VALIDATION

Validate by
Permanently Affixing
$5 Permit Stamp Here

DATE ISSUED

PERMIT VALID DURING

When permit stamp has been permanently affixed above, the applicant is authorized to operate a vacuum or suction dredge with intake diameter of 8 inches or less in waters of this state in accordance with the attached list of open and/or closed waters. Such list is a part of this permit.

NOTHING IN THIS PERMIT SHALL AUTHORIZE THE PERMITTEE TO TRESPASS ON PRIVATELY OWNED LAND, OR TO USE A DREDGE IN WATERS PASSING OVER PRIVATE LANDS WITHOUT PERMISSION OF THE LANDOWNER. THE LISTING OF WATERS OPEN TO DREDGING DOES NOT MEAN THAT SUCH WATERS ARE OPEN TO THE PUBLIC. THE PERMITTEE SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES AND ORDINANCES. SUCTION OR VACUUM DREDGES SHALL NOT BE USED WHERE DREDGING IS PROHIBITED BY ORDINANCES, STATUTES OR REGULATIONS ADOPTED PURSUANT THERETO. THIS PERMIT DOES NOT AUTHORIZE DREDGING IN ANY NATIONAL FOREST, NATIONAL PARK, STATE PARK, COUNTY PARK, MUNICIPAL PARK OR OTHER SUCH AREA IN WHICH DREDGING IS PROHIBITED BY THE AGENCY IN CONTROL OF SUCH AREA. PERMITTEE SHALL FILE A NOTICE OF INTENT WITH THE U.S. FOREST SERVICE FOR APPROVAL IF DREDGING IS TO BE DONE ON NATIONAL FOREST SERVICE LANDS.

Signed: _____

Title: _____

IMPORTANT NOTE:

Flow and/or water levels in many streams and rivers may be controlled and subject to rapid changes. Dredge operators are cautioned to contact the power company, water district, or appropriate water agency which may be regulating flows in the work area to obtain specific information regarding sudden changes in flows to avoid potential dangerous conditions.

APPLICATION PROCEDURE

Application and permits may be obtained from the following offices of the Department of Fish and Game:

REGION I	627 Cypress Street, Redding 96001 (Del Norte, Humboldt, Lassen, Modoc, Shasta, Siskiyou, Tehama, Trinity Counties)
REGION II	1701 Nimbus Road, Rancho Cordova 95670 (Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, Solano, Sutter, Yolo, Yuba Counties)
REGION III	P.O. Box 47, Yountville 94599 (Alameda, Contra Costa, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, Santa Cruz, San Luis Obispo, San Mateo, Santa Clara, Sonoma Counties)
REGION IV	1234 E. Shaw Avenue, Fresno 93726 (Fresno, Kern, Kings, Madera, Mariposa, Merced, Tulare, Tuolumne, Stanislaus Counties)
REGION V	350 Golden Shore, Long Beach 90802 (Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, Santa Barbara, San Diego, Ventura Counties)
HEADQUARTERS	1416 Ninth Street, Sacramento 95814

LAWS AND REGULATIONS

SECTION 5653, FISH AND GAME CODE. Before any person uses any vacuum or suction dredge equipment in any river, stream or lake of this State, such person shall submit an application for a permit for such a dredge to the Department of Fish and Game specifying the type and size of equipment to be used and such other information as the Department may require.

The Department may designate waters or areas wherein vacuum or suction dredges may be used pursuant to a permit, waters or areas closed to such dredges, the maximum size of such dredges which may be used, and the time of year when such dredges may be used. If the Department determines that such operation will not be deleterious to fish, it shall issue a permit to the applicant. If any person operates any equipment other than that authorized by the permit or conducts such operation in any waters or area, or at any time which is not authorized by the permit, or if any person conducts such operation without securing such permit, such person shall be guilty of a misdemeanor.

The Department shall require as a fee for such permits, five dollars ($5) when an onsite investigation of the project size is not deemed necessary by the department, and seventy-five dollars ($75) when the department deems an onsite investigation is necessary.

SECTION 228, TITLE 14, CALIFORNIA ADMINISTRATIVE CODE. Permits to use vacuum or suction dredges in any river, stream or lake of this State may be issued under and subject to the following conditions:

(A) To whom issued: to any person who has submitted an application on a form furnished by the Department of Fish and Game specifying the type and size of equipment to be used, and location where such equipment will be used. If the Department determines that the proposed operation of the suction or vacuum dredge will not be deleterious to fish, it shall issue a permittto the applicant.

(B) Limitations:

(1) The size of the suction or vacuum dredge may be limited by the Department.

(2) Only equipment specified in the permit may be used.

(3) Equipment may be operated only in the locations specified in the permit.

(4) Nothing in the permit shall authorize the permittee to trespass on privately owned land. The permittee shall conform to all applicable federal, state and local statutes and ordinances. Suction or vacuum dredges shall not be used where dredging is prohibited by the statute, ordinance or regulation adopted pursuant thereto.

(5) Permits are not transferable.

(6) No person other than the permittee shall exercise any rights under the permit.

(7) Suction or vacuum dredge equipment may not be used as a hydraulic monitor to wash dirt or gravel above the water surface.

(8) No change may be made in the bed, bank, or channel of any river, stream or lake which adversely affects the environment of fish.

(9) The permit and equipment shall be available for inspection at any time a suction or vacuum dredge is being operated in any stream, river or lake of this State upon demand of any employee of the Department or any peace officer.

(10) The license year for suction or vacuum dredge permits shall be from January 1 through December 31 or any part thereof.

(C) Areas of Operation. The Department shall determine which streams, rivers or lakes, or areas of streams, rivers or lakes where operation of a suction or vacuum dredge of a specified size will not be deleterious to fish.

(D) Suspension or cancellation of permit. All permits issued under authority of this regulation may be suspended or cancelled on notice by the Fish and Game Commission for violation of any terms or conditions of the permit.

ADDITIONAL RESTRICTIONS

The permit does not authorize dredging in any national forest, national park, state park, county park, municipal park or other such area in which dredging is prohibited by the agency in control of such area. Section 5653 of the Fish and Game Code prohibits deposition in the State waters of any substance or material deleterious to fish. Section 5652 of the Fish and Game Code prohibits disposal of any garbage or rubbish within 150 feet of the waters of this State.

Prepare in Duplicate
Please Print

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

APPLICATION FOR SPECIAL PERMIT* TO OPERATE VACUUM OR SUCTION DREDGE
CALENDAR YEAR _____, OR FOR REMAINING PORTION THERE OF

FEE: $75 IF AN INSPECTION IS REQUIRED.
$ 5 IF NO INSPECTION IS REQUIRED.
DO NOT SUBMIT FEE WITH APPLICATION! YOU WILL BE NOTIFIED WHEN FEE IS DETERMINED.

*A special permit is required when using dredges with an intake larger than 8 inches in diameter, or any dredge operated in waters otherwise closed to dredging. A special permit is issued by the regional office of the region in which the water is located. (See reverse side for list of regional offices.)

NAME ________________________ TELEPHONE NO. ( ) ____________
Area Code Number

ADDRESS ________________________

CITY ________________ Zip ________

TYPE OF OPERATION: (Check one) GOLD MINING ☐ SAND & GRAVEL ☐ OTHER ☐

Explain "Other", if checked: ________________________

SIZE OF DREDGE: ________________________

DATES DREDGING WILL TAKE PLACE: ____________ to ____________

LOCATION WHERE DREDGING WILL TAKE PLACE. List range, township and section, any known landmarks, and ownership of land (mining claim, privately owned property, or public lands). If mining claim, enclose legal description.

____

____

____

EXPLAIN NEED FOR SPECIAL PERMIT: ________________________

____

I HEREBY CERTIFY THAT I HAVE READ THE PROVISIONS OF SECTION 5653 OF THE CALIFORNIA FISH AND GAME CODE AND SECTION 228, TITLE 14, CALIFORNIA ADMINISTRATIVE CODE, (SEE REVERSE SIDE FOR THESE SECTIONS), AND THAT I UNDERSTAND AND AGREE TO BE BOUND BY ALL THE TERMS SET FORTH IN THE PERMIT ISSUED PURSUANT TO THE ABOVE-NAMED SECTIONS.

________________ ________________
Date of Application Signature of Applicant

- -

DO NOT WRITE IN THE SPACE BELOW - FOR OFFICIAL USE ONLY

- -

RECOMMENDATION FROM FIELD PERSONNEL: ☐ DISAPPROVED FOR THE FOLLOWING REASONS:

____

____

☐ APPROVED: AN INSPECTION WAS/WAS NOT REQUIRED; THEREFORE FEE IS $ ____________

SIGNED: ________________ TITLE: ________________

FG 964
Rev. 2/80

APPLICATION PROCEDURE

Application and permits may be obtained from the following offices of the Department of Fish and Game:

REGION I	627 Cypress Street, Redding 96001 (Del Norte, Humboldt, Lassen, Modoc, Shasta, Siskiyou, Tehama, Trinity Counties)
REGION II	1701 Nimbus Road, Rancho Cordova 95670 (Alpine, Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Nevada, Placer, Plumas, Sacramento, San Joaquin, Sierra, Solano, Sutter, Yolo, Yuba Counties)
REGION III	P.O. Box 47, Yountville 94599 (Alameda, Contra Costa, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, Santa Cruz, San Luis Obispo, San Mateo, Santa Clara, Sonoma Counties)
REGION IV	1234 E. Shaw Avenue, Fresno 93726 (Fresno, Kern, Kings, Madera, Mariposa, Merced, Tulare, Tuolumne, Stanislaus Counties)
REGION V	350 Golden Shore, Long Beach 90802 (Imperial, Inyo, Los Angeles, Mono, Orange, Riverside, San Bernardino, Santa Barbara, San Diego, Ventura Counties)
HEADQUARTERS	1416 Ninth Street, Sacramento 95814

LAWS AND REGULATIONS

SECTION 5653, FISH AND GAME CODE. Before any person uses any vacuum or suction dredge equipment in any river, stream or lake of this State, such person shall submit an application for a permit for such a dredge to the Department of Fish and Game specifying the type and size of equipment to be used and such other information as the Department may require.

The Department may designate waters or areas wherein vacuum or suction dredges may be used pursuant to a permit, waters or areas closed to such dredges, the maximum size of such dredges which may be used, and the time of year when such dredges may be used. If the Department determines that such operation will not be deleterious to fish, it shall issue a permit to the applicant. If any person operates any equipment other than that authorized by the permit or conducts such operation in any waters or area, or at any time which is not authorized by the permit, or if any person conducts such operation without securing such permit, such person shall be guilty of a misdemeanor.

The Department shall require as a fee for such permits, five dollars ($5) when an onsite investigation of the project size is not deemed necessary by the department, and seventy-five dollars ($75) when the department deems an onsite investigation is necessary.

SECTION 228, TITLE 14, CALIFORNIA ADMINISTRATIVE CODE. Permits to use vacuum or suction dredges in any river, stream or lake of this State may be issued under and subject to the following conditions:

(A) To whom issued: to any person who has submitted an application on a form furnished by the Department of Fish and Game specifying the type and size of equipment to be used, and location where such equipment will be used. If the Department determines that the proposed operation of the suction or vacuum dredge will not be deleterious to fish, it shall issue a permit to the applicant.

(B) Limitations:

(1) The size of the suction or vacuum dredge may be limited by the Department.
(2) Only equipment specified in the permit may be used.
(3) Equipment may be operated only in the locations specified in the permit.
(4) Nothing in the permit shall authorize the permittee to trespass on privately owned land. The permittee shall conform to all applicable federal, state and local statutes and ordinances. Suction or vacuum dredges shall not be used where dredging is prohibited by the statute, ordinance or regulation adopted pursuant thereto.
(5) Permits are not transferable.
(6) No person other than the permittee shall exercise any rights under the permit.
(7) Suction or vacuum dredge equipment may not be used as a hydraulic monitor to wash dirt or gravel above the water surface.
(8) No change may be made in the bed, bank, or channel of any river, stream or lake which adversely affects the environment of fish.
(9) The permit and equipment shall be available for inspection at any time a suction or vacuum dredge is being operated in any stream, river or lake of this State upon demand of any employee of the Department or any peace officer.
(10) The license year for suction or vacuum dredge permits shall be from January 1 through December 31 or any part thereof.

(C) Areas of Operation. The Department shall determine which streams, rivers or lakes, or areas of streams, rivers or lakes where operation of a suction or vacuum dredge of a specified size will not be deleterious to fish.

(D) Suspension or cancellation of permit. All permits issued under authority of this regulation may be suspended or cancelled on notice by the Fish and Game Commission for violation of any terms or conditions of the permit.

ADDITIONAL RESTRICTIONS

The permit does not authorize dredging in any national forest, national park, state park, county park, municipal park or other such area in which dredging is prohibited by the agency in control of such area. Section 5653 of the Fish and Game Code prohibits deposition in the State waters of any substance or material deleterious to fish. Section 5652 of the Fish and Game Code prohibits disposal of any garbage or rubbish within 150 feet of the waters of this State.